

### REMARKS

Claim 6 and 19 have been amended in conjunction with the remarks thereon, next.

#### Claims 6 and 19

Claims 6 and 19 were rejected under 35 USC 102(b) as being anticipated by **Higgins**. Examiner is respectfully requested to reconsider his rejection based on the following.

In respect of claim 19, the Examiner thought that **Higgins** discloses an RF telemetry unit comprising:

- (a) "incumbent metallic infrastructure 131 (see column 2, line 12-24)"
- (b) "a first RF radiating/receiving element 230, 232" and
- (c) "a first metallic structure 36, 24 (see column 3, lines 55-67, column 4, lines 1-8 and fig. 12) placed physically closer to said first RF radiating/receiving element than the incumbent metallic infrastructure is (see fig. 12)".

With respect, although Examiner has modified his characterization (relative to that in the earlier Office Action) of **Higgins** in respect of claim 19, Applicant still has difficulty understanding the Examiner's position.

The Applicant's difficulty is most directly illustrated by considering claims 11, 12, 14 and 24, and Applicant asks for Examiner's indulgence for this digression for better focusing on the terminological disconnect before returning to claim 19. In claims 11, 12, 14 and 24, the "incumbent metallic infrastructure" is recited to be that of "conventional resource-measuring meter". What the Examiner identifies as "incumbent metallic infrastructure 131 (see column 2, line 12-24)", is in fact, part of base lock 31, which is part of housing assembly 22 for the telemetry functions. Half portion 131 is not part of

the meter but rather is part of the telemetry function separate from the meter (see Fig 3, where 14 represents a water meter and 31 is the baselock of the housing assembly 22 for the telemetry functions). Thus Applicant cannot understand, in claims 11, 12, 14 and 24, how Examiner considers 131 to be "incumbent metallic infrastructure" that is part a "conventional resource-measuring meter".

Returning to claim 19 and to a more general consideration, Applicant understands the phrase "incumbent metallic infrastructure" as something providing the metallic context within which (or to which) the RF radiating/receiving material and the Applicant's inventive contribution operate (or is added). The specification describes the key terms and concepts. In the three excerpts from the specification below, for a more immediate understanding of Applicant's position, the phrase "incumbent metallic infrastructure" (and derivative and related expressions) are underlined, and the phrase "*metallic structure*" is italicized.

First, under BACKGROUND OF THE INVENTION: "Antenna performance parameters such as efficiency, radiation/reception pattern, and resonant frequency are affected when the antenna is placed in the vicinity of metallic infrastructures. The incumbent or resident metallic infrastructures in conventional electromechanical utility meters (such as GE Watthour Meter I-70-S and ABB AB-1) greatly affect the performance parameters of conventional half-wave dipole or quarter-wave whip antennas when such antennas are incorporated within the confines of a conventional meter. The interactions between the metallic infrastructure in a conventional meter and such conventional antennas are highly sensitive in the sense that the difference in the metallic infrastructures themselves between different meter models is sufficient to cause inconsistent antenna performance. The goal of the invention is to increase the stability and efficiency of antenna performance over many meter types."

Secondly, under DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT: "With reference to FIGS. 1 and 2, a conventional meter 100 houses electro-mechanical (incumbent or resident) metallic infrastructures (consisting of gears, brackets, prongs,

tumblers, disks, rivets and the like, identified generally as 140) enclosed by a transparent (typically glass or plastic) cover 90. Herein, the term “metallic infrastructure” is meant to describe the (resident or incumbent) metallic infrastructure 140 whereas the term “metallic structure” is meant to describe the contribution of the present invention.”

And thirdly, at the end of the specification (after the Preliminary Amendment, filed on January 18, 2005): “Although the preferred and alternative embodiments have been given in the context of a conventional utility meter, the present invention is not limited to such contexts. The present invention teaches that incumbent or resident metallic infrastructures which are problematic because they vary from (conventional meter) model to model, can be substantially “tamed” by inserting a *metallic structure* that becomes more “dominant” than the incumbent or resident “adjacent” metallic infrastructure because of its closer proximity to the RF radiating/receiving element of the subject antenna. This more “dominant” *metallic structure* is more manageable than the varying incumbent or resident metallic infrastructures because its effects are more uniform and thus predictable.”

With the phrase “incumbent metallic infrastructure” in claim 19 properly understood in light of the specification, Applicant does not think that **Higgins** anticipates.

In respect of claim 6, the Examiner relies on his position on claim 19, and accordingly, Applicant repeats here its remarks above on Claim 19.

In (currently amended) claims 6 and 19, the relationship of “incumbent metallic infrastructure” with relative to the other features, has been rephrased slightly to better emphasize the difference between the Applicant’s invention and **Higgins**.

Applicant respectfully submits that current claims 6 and 19 are novel over **Higgins**.

#### Claims 20-23

Claims 20-23 were rejected under 35 USC 103 as being unpatentable by **Higgins** in view

of **Hill**. The Examiner thought that **Higgins** discloses all limitations of the invention except for "RF radiating/receiving element [that] is a [s]lot formed from material" ([...] are Applicant's insertions), and that the average skilled person would be motivated to modify **Higgins** in view of "the slot antennas 12-14 (see fig. 3)" of **Hill**, "...in order to have easily and cheaply attached to an antenna housing".

Examiner is respectfully requested to reconsider his rejection based on the following. First, **Hill**'s antennas 12-14 are patch antennas (see column 4, line 14) and are not "slot antennas" as Examiner has characterized. Secondly, **Higgins** already has radiator assembly 18 (comprising disks 230 and 232 separated by an air gap) that is designed for a particular operating environment (telemetry for underground devices – see column 1, lines 15-28). The Examiner has not explained why the average skilled person would replace such particular antenna designs in **Higgins** with (*arguendo* **Hill**'s) "slot antennas" - the latter would have very different RF radiation/reception patterns than those particular **Higgins** antennas have in the **Higgins** environment. Even assuming there is motivation to combine **Higgins** and **Hill**, the Examiner has not identified where in (or how in) **Higgins** the average skilled person would place slot antennas. It would not be "easy" or cheap" (as Examiner has stated) to modify **Higgins** to have slot antennas for its (underground telemetry) operating environment and objectives – quite the opposite, it would be very inventive to modify **Higgins** with slot antennas.

For the above reasons, the combination of **Higgins** and **Hill** is improper against claims 20-23.

#### Claims 25-26

Claims 25-26 were rejected under 35 USC 103 as being unpatentable by **Higgins** in view of **Hill**. Examiner is respectfully requested to reconsider based on the following.

In respect of claim 25, the Examiner thought that **Hill** discloses cover 230. As claim 25 ultimately depends on claim 20, Applicant repeats here its remarks above on claim 20.

In respect of claim 26, the Examiner thought that Hill discloses "the dielectric 6 properties that do not adversely affect the performance of the radiating element (See column 4, line 25)." As claim 26 ultimately depends on claim 20, Applicant repeats here its remarks above on claim 20.

#### Claims 7-18

Claims 7-18 were rejected under 35 USC 103 as being unpatentable because (it appears to the Applicant reading the Office Action ) that the Examiner thought that those claims recited methods that were inherent in a product that is the combination of Higgins as modified by Hill. Reconsideration is respectfully requested in view of the following.

As a preliminary comment, Applicant does not understand why the Examiner lumped these claims together. It appears that there are two groups within claims 7-18, namely, claims 7-13 (which ultimately depend on claim 6), and claims 14-18, which form a separate group.

In respect of claims 7-13, Applicant relies here on its remarks above in respect of claim 6 (on which those claims ultimately depend), which in turn relies on its remarks above made about claim 19 about the inappropriateness of citing Higgins.

Furthermore, in respect of claims 7-13 and 14-18, the Applicant does not understand Examiner's analysis as stated based on the combination of Higgins and Hill, and accordingly, Applicant repeats here its above remarks made for claims 20-23, being the claims against which the Examiner has elsewhere applied that combination with more particularity.

#### Claim 24

Claims 24 was rejected under 35 USC 103 as being unpatentable by Higgins in view of

**Johnson.** The Examiner thought that **Higgins** discloses all limitations except for the incumbent metallic infrastructure of a conventional resource-measuring meter, and that **Johnson** discloses such incumbent metallic infrastructure, and that it would have been obvious to the averaged skilled person to modify **Higgins** to have the conventional resource-measuring meter of **Johnson**, and that the motivation would be to have a "compact package".

Examiner is respectfully requested to reconsider his rejection based on the following. First, claim 24 is ultimately dependent on claim 19 and so Applicant's remarks above in respect of claim 19 are repeated here. Secondly, it would be structurally repugnant to modify **Higgins** with **Johnson's** incumbent metallic infrastructure of a conventional resource-measuring meter. **Higgins** is directed to a particular type of meter for a particular environment (telemetry for underground devices – see column 1, lines 15-28) and so structurally would not accept a **Johnson** conventional resource-measuring meter.

Finally, Applicant refers to the last paragraph of its communication filed on April 11, 2005. As explained in the final paragraph of the Preliminary Amendment (filed on January 18, 2005), the IDS filed therewith replaces the one filed with the initial application. Applicant requests that the Examiner indicate its consideration of the IDS filed with the Preliminary Amendment.

Respectfully,



Norm Stevenson  
Director of Administration

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